

**Table 1:** Model selection results, showing the degrees of freedom (df) and deviances for each model from the most complex (model 1) to the simplest model (model 5) for each non-host species combination. The best model in all three cases was the most complex model which included densities of the first non-host species ( $X_1$ ), densities of the second non-host species ( $X_2$ ) and the interaction ( $X_1:X_2$ ) between the two non-hosts species. The dispersion factor ( $\phi$ ) for the best-fitting model for each non-host species combination is shown. For details of model selection procedures see text and Fig. S1.

Model code	Model	df	Deviance		
			Crabs & seaweed	Seaweed & oysters	Oyster & crab
1	$X_1+X_2+X_1:X_2$	48	130.7	840.1	183.1
2	$X_1+X_2$	57	306	1034.7	638.8
3	$X_1$	60	615.3	1873.3	683.4
4	$X_2$	60	1090.3	1232.3	1302
5	1	63	1373.9	1930.5	1355.5
$\phi$ from best fitting model			2.72	17.5	3.81